Phoenix²

Remote-Controlled
Vehicle Security System

Installation Manual

AVITAL

Table of Contents

Important Information 2
Required Installation Tools 2
Recommended Procedures 2
Wiring Diagram 3
20 Pin Connector 4
Installation Procedures. 5
Control Unit 5
Antenna 5
Wireloom 5
Zone^{2}™ Impact Sensor. 5
Valet Switch 6
LED Indicator 6
Ignition Input 6
Channel 2 Accessory (-) Output 6
Channel 4 Accessory (-) Output 6
Channel 6 Accessory (-) Output 7
Parking Lights 7
Interior Light Trigger/Illumination 7
Starter Disable 7
Door Lock/Unlock 8
Door Lock Diagrams 9
Hood/Trunk Pin Switch 13
Siren 13
Power and Ground Connections 13
Programmable Features. 14
Programming Table for Alarm Features 15
Programming Table for Remote Controls 16

Important Information

Required Installation Tools

Voltmeter
Wire Strippers
Electric Drill & Bits
Phillips Screw Driver
Convoluted Tubing *
Solder Gun *
Wire Crimpers
Shrink Tube or Electrical Tape

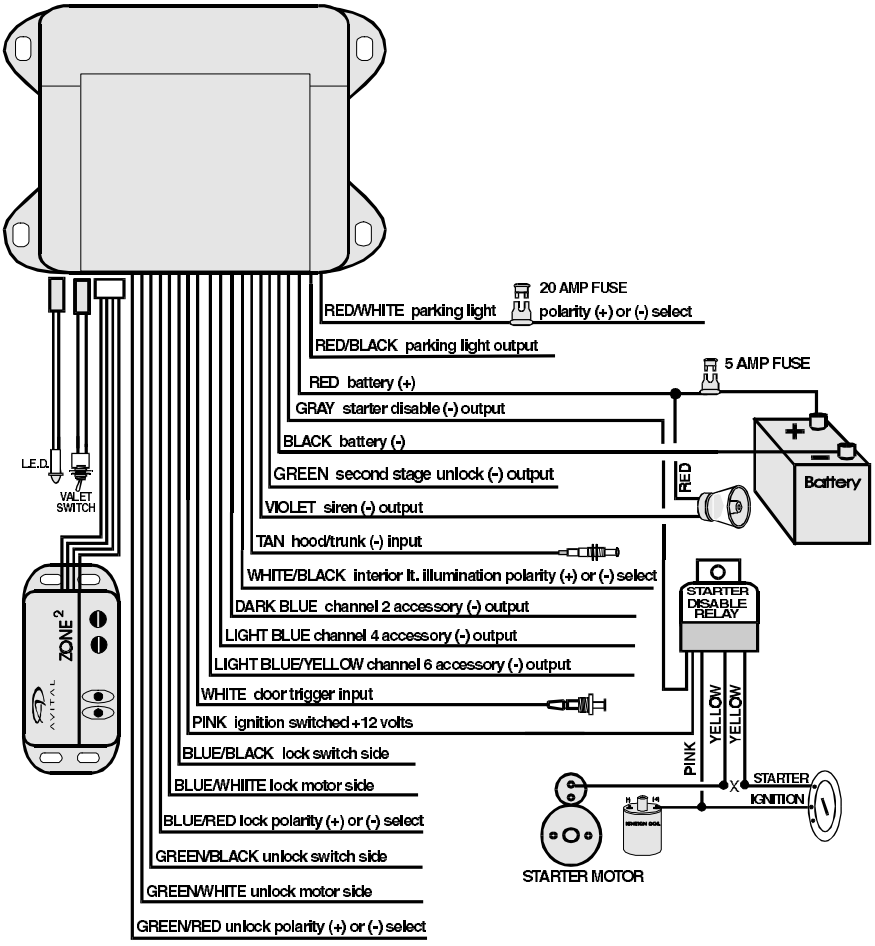
** Optional*

Recommended Procedures

1. Test all circuits with a voltmeter.
2. Make all wiring connections with the supplied solderless crimp connectors. DO NOT twist wires or use "scotch-lok" connectors.
3. Route **RED**, **RED/WHITE** and **BLACK** wires from the control unit directly to the battery.
4. Keep extensions as short as possible. Use same gauge wires for short extensions and larger gauge wires for longer extensions.
5. Before installing, discuss the placement of the LED indicator and valet switch with the vehicle owner.
6. Make all battery connections by removing the bolts from the cable clamps. DO NOT disconnect the battery cables.
7. Turn off dome light(s) or remove dome light fuse to prevent battery drain.
8. Making secure connections is a very important part of your installation. Solderless crimp connectors are supplied in your hardware accessory package. This type of connection is sufficient for most of your installation. However, soldering of the starter disable wires is recommended whenever possible. For a more secure installation, solder all of your connections and insulate with heat shrink tubing.

This device complies with Part 15 of the FCC rules. Any changes or modifications made to the system without the express approval of Prime Security could void the user's authority to operate this equipment.

Wiring Diagram



20 Pin Connector

Pin Number	Wire Color	Description
1	**RED**	Battery (+)
2	**VIOLET**	Siren (-) Output
3	**DARK BLUE**	Channel 2 (-) Output (Trunk Release)
4	**LIGHT BLUE**	Channel 4 (-) Output
5	**BLUE / YELLOW**	Channel 6 (-) Output
6	**GRAY**	Armed (-) Output Prewired to Starter Disable Relay
7	**TAN**	Hood / Trunk Switch (-) Input
8	**PINK**	Ignition Output
9	**LIGHT GREEN**	Second Stage Unlock (-) Output
10	**BLACK**	Battery (-)
11	**RED / WHITE**	Parking Light Polarity Input, (+) or (-) Input Select
12	**RED / BLACK**	Parking Light Output
13	**WHITE**	Interior Light Input
14	**WHITE / BLACK**	Door Trigger Polarity Select Input
15	**GREEN / BLACK**	Unlock Switch Side
16	**GREEN / WHITE**	Unlock Motor Side
17	**GREEN / RED**	Unlock Polarity (+) or (-) Input Select
18	**BLUE / BLACK**	Lock Switch Side
19	**BLUE / WHITE**	Lock Motor Side
20	**BLUE / RED**	Lock Polarity (+) or (-) Input Select

Installation Procedures

Control Unit

1. Select a location under the dash that will allow you to use the tie wraps to securely fasten the control unit.
2. Mount the control unit as high as possible to ensure maximum range.
3. Do not mount the control unit near moving parts.
4. Avoid areas that are in the direct path of air blowing from the vents.
5. Route wires from this point, leaving slack for ease of service.

Antenna

1. Do not shorten or lengthen the antenna.
2. Route the antenna away from the control unit.
3. Keep the antenna as far away from metal and wire harnesses as possible to optimize range.

Wireloom

1. Plug the wireloom securely into the control unit.
2. Route wires from the control unit directly to each connection point.
3. Separate the **RED, RED/WHITE, BLACK, VIOLET** and **TAN** wires.
4. Sleeve the wires with vinyl tubing or electrical tape and route them through an existing rubber grommet into the engine compartment.
5. If an existing grommet is not available, drill a hole and install a snap grommet.

Zone^{2}™ Impact Sensor

The sensor must be firmly mounted on a solid metal surface inside the vehicle. We recommend tie wrapping the sensor to the steering column housing or steering column support bracket. DO NOT mount the sensor near moving parts or in the direct path of an air duct opening.

1. Plug the impact sensor **BLUE** 4-pin connector into the control unit **BLUE** 4-pin connector.
2. Route the impact sensor harness to the chosen mounting location.
3. Using the long tie wraps supplied, securely fasten the impact sensor allowing access to the adjustment screws.

Valet Switch

1. Discuss placement with the vehicle owner.
2. Choose a location for the valet switch that is hidden, but convenient for the owner to access.
3. Drill a ¼" hole and mount the switch.
4. Route the valet switch wires to the control unit.
5. Plug the valet switch **WHITE** connector into the control unit **WHITE** plug.

LED Indicator

1. Discuss placement with the owner.
2. Choose a location that is visible from both sides of the vehicle.
3. Drill a ¼" hole.
4. Route the LED wires through the hole and press LED into place.
5. Route the LED wires to the control unit.
6. Plug the **RED** LED connector into the control unit **RED** plug.

Ignition Input

1. Use a voltmeter to locate the one wire that shows +12 volts when the ignition key is in the "ON," "CRANK" and "RUN" positions, and 0 volts when the ignition key is in the "OFF" position.
2. Connect the **PINK** wire to the vehicle ignition wire.

Channel 2 Accessory (-) Output

The **DARK BLUE** wire provides a 0.75 second ground (-) output when the alarm is disarmed only. This is ideal for trunk release. If the remote control button is continuously pressed, the signal will stay at ground as long as the button is held.

NOTE: Most trunk releases are positive and require an optional relay.

Channel 4 Accessory (-) Output

The **LIGHT BLUE** wire provides a 0.75 second (-) output when activated whether the alarm is armed or disarmed. If the remote control button is continually pressed, the signal will stay at ground as long as the button is held.

Channel 6 Accessory (-) Output (Arm/Disarm + Option Buttons)

The **LIGHT BLUE/YELLOW** wire provides a 0.75 second (-) output when activated whether the alarm is armed or disarmed. If the remote control button(s) is continually pressed, the signal will stay at ground as long as the button is held.

Parking Lights

1. If the parking lights are positive trigger, connect the **RED/WHITE** wire to the battery positive (+) terminal through the 20 amp fuse.

   NOTE: Do not connect the RED/WHITE wire to the control unit RED wire.

2. If the parking lights are negative (-) trigger, connect the **RED/WHITE** wire to control unit **BLACK** wire.
3. Connect the **RED/BLACK** wire to the vehicle parking light wire.

Interior Light Trigger/Illumination

The system door trigger will accept a positive or negative door trigger input. When the alarm is remotely disarmed, the interior lights will turn on for 30 seconds or until the ignition key is turned "ON." The **WHITE/BLACK** interior light supply wire serves two purposes. It informs the alarm whether the door trigger polarity is positive or negative switching and provides a positive or negative supply for interior light illumination.

1. Connect the **WHITE** wire to the vehicle door trigger wire(s).
2. If the door trigger is negative switching, connect the **WHITE/BLACK** wire to ground.
3. If the door trigger wire is positive switching, connect the **WHITE/BLACK** wire to a constant fused +12 volt source.

Starter Disable

The alarm can be installed as Normally Open (N.O.) or Normally Closed (N.C.) starter disable. It is factory set for Normally Closed.

NOTE: Make sure the YELLOW relay wires are solidly connected. The starter circuit may draw very high current. We recommend that all starter wire connections be soldered.

Normally Closed

1. Locate the ignition switch wireloom under the dashboard.
2. Use a voltmeter to find the one wire that will show +12 volts while the ignition key is in the cranking cycle only. This should be the starter solenoid wire.
3. Cut the starter solenoid wire. Test by trying to crank the starter with the ignition key. If it will not crank, you have the correct wire.
4. Connect one **YELLOW** wire to the key side.
5. Connect the other **YELLOW** wire to the starter side.

Normally Open

1. Unplug the **YELLOW** wire from relay terminal 87A and insert the **YELLOW** wire into relay terminal 87.
2. Locate the ignition switch wireloom under the dashboard.
3. Use a voltmeter to find the one wire that will show +12 volts while the ignition key is in the cranking cycle only. This should be the starter solenoid wire.
4. Cut the starter solenoid wire. Test by trying to crank the starter with the ignition key. If it will not crank, you have the correct wire.
5. Connect one **YELLOW** wire to the key side.
6. Connect the other **YELLOW** wire to the starter side.
7. Program the alarm module for Normally Open (N.O.) starter disable (see "Programming Table for Alarm Features").

Door Lock/Unlock

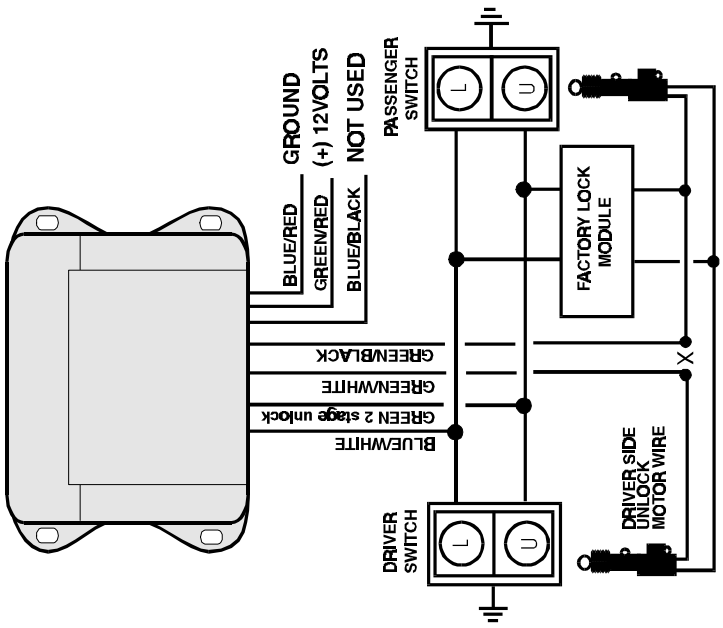
The alarm has on-board relays to lock and unlock the doors. It also has a second unlock (-) output wire (**GREEN**) that will allow you to do Two-Stage Unlock. The second stage unlock wire provides a 400 ma, 0.75 second (-) output when activated.

Two-Stage Unlock

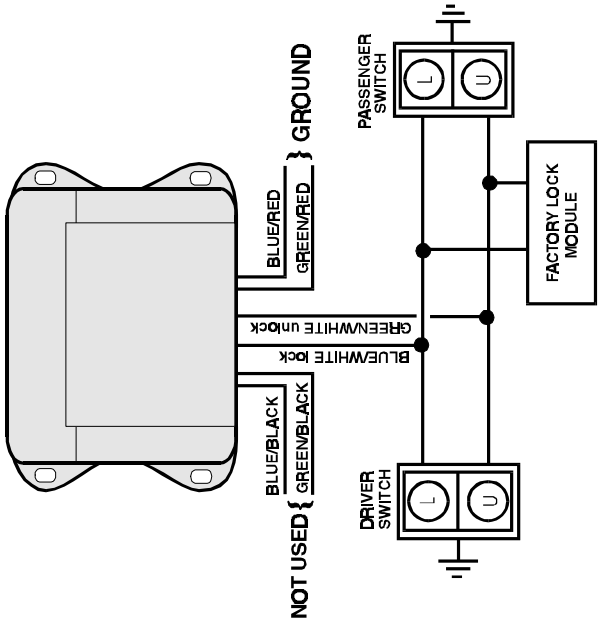
> ⚠ **CAUTION**: Be sure to verify the type of door lock system you are working with. Carefully follow the door lock/unlock diagrams on pages 9-12.

1. Press the remote arm/disarm button once and the driver door only will unlock.
2. Press the remote arm/disarm button again within 3 seconds and the passenger doors will unlock.

Negative Trigger Door Locks
Two Stage Door Unlock

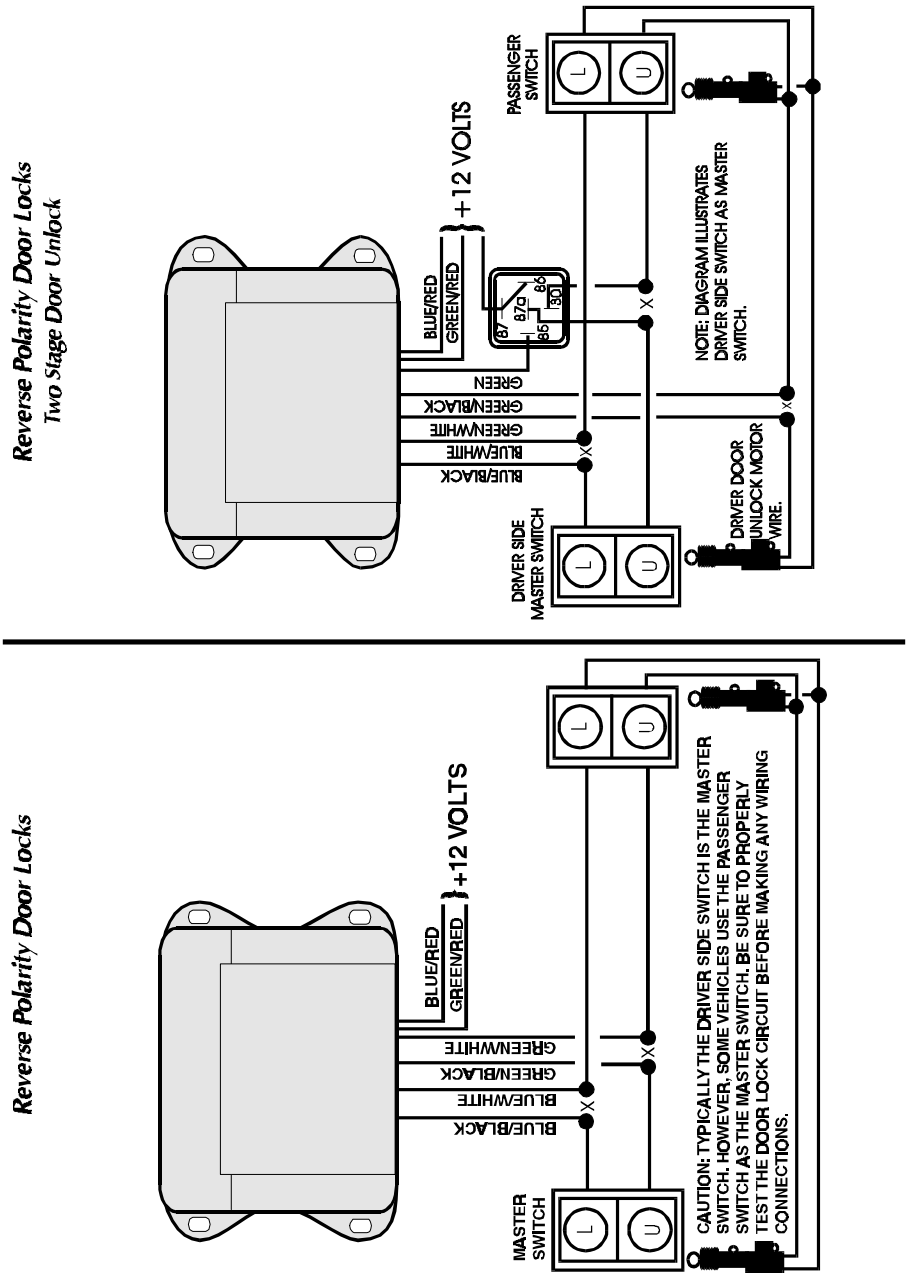


Negative Trigger Door Locks



Positive Trigger Door Locks
Two Stage Door Unlock

Positive Trigger Door Locks


Reverse Polarity Door Locks
Two Stage Door Unlock
+12 VOLTS
BLUE/RED
GREEN/RED
GREEN
GREEN/BLACK
GREEN/WHITE
BLUE/WHITE
BLUE/BLACK
87
87a
86
85
30
PASSENGER SWITCH
DRIVER SIDE MASTER SWITCH
DRIVER DOOR UNLOCK MOTOR WIRE.
NOTE: DIAGRAM ILLUSTRATES DRIVER SIDE SWITCH AS MASTER SWITCH.
Reverse Polarity Door Locks
+12 VOLTS
BLUE/RED
GREEN/RED
GREEN/WHITE
GREEN/BLACK
BLUE/WHITE
BLUE/BLACK
MASTER SWITCH
CAUTION: TYPICALLY THE DRIVER SIDE SWITCH IS THE MASTER SWITCH. HOWEVER, SOME VEHICLES USE THE PASSENGER SWITCH AS THE MASTER SWITCH. BE SURE TO PROPERLY TEST THE DOOR LOCK CIRCUIT BEFORE MAKING ANY WIRING CONNECTIONS.

Mercedes/Audi One Wire Door Locks

Adding Door Lock Actuators

Hood/Trunk Pin Switch

1. Locate the vehicle hood or trunk pin switch that shows ground when the hood or trunk is open only.
2. Connect the **TAN** wire to the vehicle hood or trunk switch wire.
3. If the vehicle does not have a hood or trunk switch, install a pin switch and connect it to the **TAN** wire.

Siren

1. Choose a location in the engine compartment away from high heat engine components, moving parts and direct exposure to water.
2. Make sure the siren and siren wires cannot be seen or reached from below the vehicle.
3. Mount the siren with the two self tapping screws to a solid metal surface.
4. Connect the siren **BLACK** wire to the alarm module **VIOLET** wire.
5. Connect the siren **RED** wire to the alarm module **RED** wire.

Power and Ground Connections

> **CAUTION**: Do not plug in the system fuses until the final step below.

1. Connect the **RED** wire to one of the supplied fuse assemblies.
2. Connect the **RED/WHITE** wire to the other fuse assembly (if the vehicle parking lights are (+) positive).
3. Connect the fuse assembly(s) to one of the supplied 10mm ring terminals.
4. Connect the **BLACK** wire to the other 10mm ring terminal.
5. Remove the (+) and (-) battery bolts. Do not disconnect the battery clamps.
6. Connect the empty fuse assembly(s) to the positive battery post.
7. Connect the **BLACK** wire to the battery negative post.
8. Inspect all alarm wiring. Make sure all wires are connected.
9. Install the 5 amp fuse in the **RED** wire fuse assembly.
10. Install the 20 amp fuse in the **RED/WHITE** fuse assembly (if the vehicle parking lights are positive).

Programmable Features

All system and remote control programmable features are accomplished by turning the ignition key to the "ON" position or starting the engine and flicking the valet switch on and off a preset number of times. The siren will chirp for audible programming confirmation.

The system also allows you to add new remote controls in one step, delete lost or stolen remote controls or rearrange the factory preset remote control functions.

1. Remove the system from Protected or Remote-Controlled Valet Mode. Programming cannot be accessed while the system is in Valet Mode indicated by the LED on solid red.
2. Select the feature you wish to program from the "Programming Table for System Features" or the "Programming Table for Remote Controls" on pages 15-16. *Note the number of chirps associated with that feature.*
3. Turn the ignition key to the "ON" position.
4. Within 10 seconds, begin flicking the valet switch on and off. The siren will chirp once each time you flick the switch on then off.
5. Continue flicking the switch on and off, counting the number of chirps.

   NOTE: Stop when you reach the number of chirps associated with your chosen feature.
6. Follow the "Secondary Action." You will hear a number of chirps to confirm that you have changed the setting of that feature.
7. Turn the ignition key "OFF."
8. Repeat steps 1-7 for any other feature you wish to program.

Programming Table for System Features

Feature	Factory Setting	No. of Chirps	Secondary Action
Active / Passive Arming	Passive	4	Wait 3 seconds, the siren will chirp once for active, twice passive.
Passive Door Lock	OFF	5	Wait 3 seconds, the siren will chirp once for Off, twice for On.
Passive Armed Confirmation	ON	6	Wait 3 seconds, the siren will chirp once for Off, twice for On.
2 Pulse Unlock	1 Pulse	7	Wait 3 seconds, the siren will chirp once for 2 pulse, twice for 1.
Door Lock/Unlock Output Duration (1 or 3 Seconds)	1 Second	8	Wait 3 seconds, the siren will chirp once for 3 seconds, twice for 1 second.
Ignition-Controlled Door Lock/Unlock	ON	9	Wait 3 seconds, the siren will chirp once for Off, twice for On.
Programmable 0 or 3 Second Delay for Ignition-Controlled Door Lock	0 Seconds	10	Wait 3 seconds, the siren will chirp once for 3 seconds, twice for 0 seconds.
Normally Open / Normally Closed Starter Disable	Normally Closed	11	Wait 3 seconds, the siren will chirp once for normally open, twice for normally closed.
Door Ajar Indication	ON	12	Wait 3 seconds, the siren will chirp once for Off, twice for On.
Siren Duration 30 or 60 seconds	30 Seconds	13	Wait 3 seconds, the siren will chirp once for 60 seconds, twice for 30.
Long-Term Silent Arm/Disarm	ON	14	Wait 3 seconds, the siren will chirp once for Off, twice for On.

Programming Table for Remote Controls

Feature	Factory Setting	No. of Chirps	Secondary Action
Arm/Disarm	ARM/DISARM Button	15	Press the ARM/DISARM button, the siren will chirp 1 time.
Remote-Controlled Trunk Release Output	TRUNK Button	16	Press the TRUNK button, the siren will chirp 2 times.
Remote-Controlled Silent Arm/Disarm	SILENT Button	17	Press the SILENT button, the siren will chirp 3 times.
Channel 4 Remote-Controlled Accessory Output	OPTION Button	18	Press the OPTION button, the siren will chirp 4 times.
Remote-Controlled Valet	ARM/DISARM + SILENT Buttsons	19	Press the ARM/DISARM + SILENT buttons, the siren will chirp 5 times.
Channel 6 Remote-Controlled Accessory Output	ARM/DISARM + OPTION Buttons	20	Press the ARM/DISARM + OPTION buttons, the siren will chirp 6 times.
Remote-Controlled Sensor Bypass	TRUNK + OPTION Buttons	21	Press the TRUNK + OPTION buttons, the siren will chirp 7 times.
One Step Remote Control Code Learning	ARM/DISARM Button	22	Press ARM/DISARM button, the siren will chirp 1 time.
Instant Remote Control Code Deletion	—	23	Wait 3 seconds, the siren will chirp twice, all codes are erased out of memory.

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